

Adult Asthma in Michigan

The following is a brief description of the epidemiology of adult asthma in Michigan. For this purpose, the ages of 15 to 49 have been chosen to define adults. On the lower end, 15 was chosen to complement the earlier description of asthma up to that age, and many of the health problems that occur in the late teens have similarities to those at age 20 and older. On the upper end, 49 was chosen arbitrarily to avoid confusion and misclassification as much as possible with other chronic respiratory problems, such as emphysema.

Data about hospitalizations was obtained from the Michigan Hospital Inpatient Discharge data base. Only the primary diagnosis of asthma was used to include discharges. For death certificates, only deaths with a primary cause of death as asthma were included.

Hospital Discharges

The number of hospital discharges for asthma varied from about 5,000 to almost 6,200 between 1990 and 1995. The rates were relatively stable for white men and rose slightly for white women. The rates for both black men and black women rose substantially during this time, but appear to have stabilized in 1994.

There is a marked difference in the rates of hospitalization between white and black persons and between males and females. Black adults have a markedly higher rate of hospitalizations, and women have rates about twice that of men.

The hospital discharge rates for children are substantially higher for males, but over the age of 15 the reverse is the case. The rates for females over 20 are over twice as high as males for all age groups.

The seasonal distribution of asthma hospitalization in adults is similar to that of preschoolers with a modest rise in September and a small secondary rise in the spring.

Five of the counties having higher than average childhood asthma hospitalization rates also had high adult rates: Wayne, Jackson, Genesee, Saginaw and Bay. There were six additional small counties (population under 40,000) that had higher than average rates, but this might be due to chance variation because the number of cases was small.

Asthma Deaths

Asthma deaths in persons age 15 to 49 has risen from 43 in 1989 to 74 in 1995. The rates are higher for black persons, and the rate of rise has been much greater in females than males, particularly since 1993. Below the age of 25, men have a slightly greater death rate from asthma, but over 30 there is a markedly greater rate in females.

The pattern of death by month is different than the pattern for hospitalization. The month of the greatest deaths is July, and the numbers decrease throughout the year to a low in May.

Discussion

There are some similarities between the distribution of adult and childhood asthma hospitalizations. There is an increased rate in black adults, and the rate in black persons is rising. However, in contrast to childhood asthma, adults females have consistently higher rates of hospitalization, and the numbers hospitalized are rising. The reason for this difference is open to speculation at present, but a few directed studies have the potential for uncovering an intervention that could decrease the asthma burden on women. One consideration is the one common factor frequently shared to a great extent by children and women is the home environment.

Women have a higher rate of asthma deaths than men, but the excess does not appear until the age of 30. The number of asthma deaths in women is rising whereas the number of male deaths is not. The seasonality of asthma deaths is different than hospitalizations. Asthma hospitalizations show a small peak in September with a smaller rise in the spring. However, asthma deaths peak in July and decline during the following eleven months. The rate of childhood asthma is higher in lower socioeconomic status. However, the educational level of persons dying from asthma resemble the distribution in the general population. These two epidemiologic features suggest that those who die from asthma may represent a special subset of asthma patients and not just an extension of asthma severity as expressed by hospitalization. There is clinical evidence to support this hypothesis, and the asthma guidelines make specific reference to the characteristics that might suggest a patient is at higher risk of dying from the disease.

There is much justifiable interest in improving the health and well being of children with asthma, but as community programs develop, the data suggest that it would be well to address the problems of increasing burden of asthma on women and black men. Asthma has a strong familial pattern, so it would be surprising if many of the homes with asthmatic children were not also the homes of asthmatic mothers and fathers. It would seem appropriate and economical to address the problems of these adults in the same programs.

To obtain a copy of the full report, please contact:

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